Faculty Search Biology Seminar

Speaker: Adam Steinbrenner

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Immune recognition of herbivore-associated cues by plant membrane receptors



Monday, February 12, 2018 | 12:00pm HCK 132 Refreshments at 11:45am

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Plants can respond to their environment through perception of extracellular cues, which can be detected by membrane receptor kinases that transduce signals to grow, defend, or otherwise change state. One such cue comes from specific components of pest oral secretions (e.g. caterpillar spit), which can elicit plant immune responses through unknown mechanisms. Adam used inceptin peptides—ubiquitous patterns in Lepidopteran oral secretions—as a tool to identify candidate receptor genes mediating immunity to herbivores. Adam will describe recent work characterizing

early receptor-mediated events in herbivore-associated immune signaling. He will also describe efforts to transfer recognition of inceptin peptides, currently limited to certain legume species, to heterologous host plants to enhance immunity to pests. He will contrast defense outputs with immune receptors mediating bacterial pathogen recognition. Finally, he will discuss the evolving recognition of herbivore-associated peptides as a novel surveillance function in plant immunity, drawing on patterns across immune receptor repertoires of several recently sequenced legume genomes.

Seminar Speaker Hosts: Takato Imaizumi